

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/608,533
Attorney Docket No. Q76265

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A An isolated reductase comprising
 - i) an amino acid sequence of SEQ ID NO: 1 except that: having a substitution at amino acid position 245 or 271 or at both of the amino acid positions 245 and 271, or
 - ii) an amino acid sequence as defined in I) having further substitution, deletion, or addition of an amino acid or acids
the amino acid at amino acid position 245 is arginine, the amino acid at amino acid position 271 is aspartic acid, or both the amino acid at amino acid position 245 is arginine and the amino acid at amino acid position 271 is aspartic acid.

Claims 2-8 (Canceled)

9. (Withdrawn) A polynucleotide sequence comprising a polynucleotide sequence encoding an amino acid sequence of the reductase of claim 1 or 2.
10. (Withdrawn) A vector comprising the polynucleotide of claim 9.
11. (Withdrawn) A transformant comprising the polynucleotide sequence of claim 9.

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12. (Withdrawn) A vector according to claim 10, which further comprises a polynucleotide sequence encoding an amino acid sequence of a protein capable of converting an NADP or an NAD into NADPH or NADH respectively.

13. (Withdrawn) A transformant of claim 11, which further comprises a polynucleotide sequence encoding the amino acid sequence of a protein capable of converting an NADP or NAD into NADPH or NADH respectively.

14. (Withdrawn) A method for producing (S)-halo-3-hydroxybutyrate ester, which comprises reacting 4-halo-3-oxobutyrate ester with the transformant of claim 11 or a treated material thereof.

15. (Currently amended) A method for modifying an enzyme, which comprises substituting at least one of the amino acids at positions 245 and 271 of the amino acid sequence of SEQ ID NO:1 respectively with another amino acid(s), ~~thereby heat stability of said enzyme in the reduction reaction is improved~~

wherein the amino acid at amino acid position 245 is substituted with arginine and the amino acid at amino acid position 271 is substituted with aspartic acid.

16. (Withdrawn) A method for producing a modified enzyme gene, which comprises replacing at least one codon corresponding to the amino acids at positions 245 and 271 of the

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U.S. Application No. 10/608,533
Attorney Docket No. Q76265

amino acid sequence of SEQ ID NO: 1, with another codon or codons corresponding to an amino acid(s), in a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 1.

Claims 17-18 (Canceled)

19. (Withdrawn) A transformant comprising the vector of claim 10.
20. (Withdrawn) A transformant of claim 19, which further comprises a polynucleotide sequence encoding the amino acid sequence of a protein capable of converting an NADP or NAD into NADPH or NADH respectively.
21. (Withdrawn) A method for producing (S)-halo-3-hydroxybutyrate ester, which comprises reacting 4-halo-3-oxobutyrate ester with the transformant of claim 13 or a treated material thereof.
22. (Withdrawn) A method for producing (S)-halo-3-hydroxybutyrate ester, which comprises reacting 4-halo-3-oxobutyrate ester with the transformant of claim 19 or a treated material thereof.